



US005862325A

United States Patent [19][11] **Patent Number:** **5,862,325****Reed et al.**[45] **Date of Patent:** **Jan. 19, 1999****[54] COMPUTER-BASED COMMUNICATION SYSTEM AND METHOD USING METADATA DEFINING A CONTROL STRUCTURE**

[75] **Inventors:** **Drummond Shattuck Reed; Peter Earnshaw Heymann; Steven Mark Mushero; Kevin Benard Jones; Jeffrey Todd Oberlander; Dan Banay,** all of Seattle, Wash.

[73] **Assignee:** **Intermind Corporation, Seattle, Wash.**

[21] **Appl. No.:** **722,314**

[22] **Filed:** **Sep. 27, 1996**

Related U.S. Application Data

[63] **Continuation-in-part of Ser. No. 609,115, Feb. 29, 1996.**

[51] **Int. Cl.⁶** **G06F 17/30; G06F 17/40**

[52] **U.S. Cl.** **395/200.31; 395/200.42; 395/200.58; 395/200.72; 395/200.74; 707/10; 707/203; 707/204**

[58] **Field of Search** **395/200.3-200.33, 395/200.42, 200.46-200.49, 200.57-200.59, 200.62, 200.72-200.74, 702-703; 707/200-204, 100-103, 10**

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Primary Examiner—Krisna Lim

Assistant Examiner—Bharat Barot

Attorney, Agent, or Firm—Wolf, Greenfield & Sacks, PC

[57] ABSTRACT

An automated communications system operates to transfer data, metadata and methods from a provider computer to a consumer computer through a communications network. The transferred information controls the communications relationship, including responses by the consumer computer, updating of information, and processes for future communications. Information which changes in the provider computer is automatically updated in the consumer computer through the communications system in order to maintain continuity of the relationship. Transfer of metadata and methods permits intelligent processing of information by the consumer computer and combined control by the provider and consumer of the types and content of information subsequently transferred. Object oriented processing is used for storage and transfer of information. The use of metadata and methods further allows for automating may of the actions underlying the communications, including communication acknowledgements and archiving of information. Service objects and partner servers provide specialized data, metadata, and methods to providers and consumers to automate many common communications services and transactions useful to both providers and consumers. A combination of the provider and consumer programs and databases allows for additional functionality, including coordination of multiple users for a single database.

126 Claims, 47 Drawing Sheets

